Connacht Regional News

Traditiones et Spiritum Amateur Radio Servandum

Editor: *Steve Wright EI5DD* *wright14@gmail.com* **Vol. 1 Issue 9** **November 2022**

In This Issue

Welcome to the Ninth Edition of the Connacht Regional News Magazine

The Connacht Regional News Magazine is 100% *inclusive, unbiased*, and primarily written for the local Clubs and Groups in Connacht although there is a wealth of information that is of interest to all radio operators. More recently we have decided to include all aspects of Radio Communications and associated Groups. *Please Note:* We are *totally freelance* and in absolutely no way, tied into, or affiliated to, any one National Society. This enables us to report activities of *ALL* Radio Groups and Clubs in Ireland who wish to supply news items of interest.

It should be noted that, by taking a freelance stance, we are not favouring any Club Group or Society. If there is an absence of material from a Society or Club, it is because they did not supply material, *naturally beyond our control.*

We are fortunate that the West of Ireland has seven Radio Clubs within Connacht all of which are very active, as can be seen from their activities in our publication.

We do repeat forthcoming activities in several editions to give advanced notice of the event and to enable clubs and groups to prepare for them.

We promote >>ALL<< radio activities that are due to occur rather than report those that have happened. If you have an item of interest, please feel free to forward it to Steve. EI5DD, who will include it in the following newsletter.

Due to the overwhelming success and readership of the Connacht Regional news, now going viral, we will produce a publication MONTHLY.

A link may be found on the Galway VHF Group Web Page for the most recent copy of the Publication.

We Welcome Feedback so if you enjoyed this publication please mail Steve EI5DD:

wright14@gmail.com

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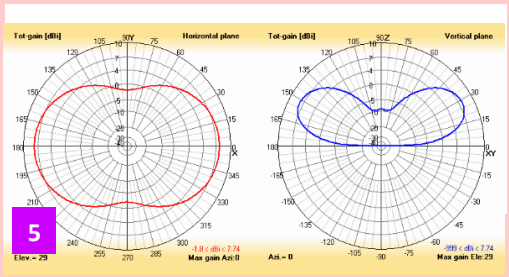
Submitting Items To This Magazine

We are always delighted to receive any radio related material for this magazine.

It does take time to lay out a publication so we have deadlines so items should be submitted by the 26th of the month giving us plenty of time to prepare for publication.

Please E-mail us in advance of submission so that space can be allocated.



Cover Image

Scouts Jamboree On The Air Shannon Basin Radio Club

Views expressed in this publication do not necessarily reflect the views of the Editor, those of the Carrion Press or the Galway VHF Group

News and Forthcoming Events

Silent Key - Richard Bruton G4TUT

It is with sadness we learn of the passing of Richard Brunton, G4TUT. For countless years, Richard was editor of the popular Southgate Amateur Radio News website. Every single day, he searched the world's amateur radio and technology resources for stories of interest and published them. Richard offered his platform inclusively, commissioning non-commercial podcasts and blogs to promote opinion alongside the conventional news items. He also compiled the 'CQ Serenade' weekly programme which was broadcast throughout Europe on Shortwaveradio.de and other public-facing media. Richard was an intensely private man who had no close family, but he reached thousands of friends daily through his website. Amateur radio has lost a true communicator. Ar dheis Dé go raibh a anam. May he Rest in Peace.

YOTA Month

December is Youngsters On The Air (YOTA) month. This brings an opportunity for individuals, clubs, schools and groups to run an amateur radio station with the aim of getting youngsters active on the air. Activations can be big or small and can be made however you wish.

Bushvalley Amateur Radio Club

Annual Radio Rally

On **Sunday 6th November 2022** Bushvalley ARC will hold their Annual Radio Rally at Limavady Football Club, The Showgrounds, Rathmore Road, Limavady **BT49 0DF**.

All proceeds from the rally will be in aid of The Air Ambulance Northern Ireland and we look forward to a good attendance to support this very worthy charity.

The usual traders will have their wares on show along with a bring & buy stall, and we have some excellent raffle prizes this year.

Doors open at **11:00 UTC**, and talk in will be available on **145.575 FM.**

If anyone would like to try the **RSGB Morse test** we will have an approved assessor in attendance, however any test MUST be pre-booked before the rally at https://thersgb.org/services/morse/testing/

For further information on the rally or Bushvalley ARC

please email bushvalleyarc@gmail.com

Bushvalley Amateur Radio Club

Prizes for the main raffle:

- Helicopter flight for up to 3 people courtesy of Cutting Edge Helicopters Eglinton.
- BHI NES10-2mk4 DSP noise cancelling speaker courtesy of Graeme at BHI Ltd.
- Watson W300 2/70 Colinear antenna – anon
- £50 cash courtesy of The Tyre Shed Toomebridge.
- Boat tour for 2 people courtesy of Kintra Boat Tours Ballycastle.
- Baofeng UV9-R waterproof handheld – anon
- 1 year's digital subscription to Practical Wireless.
- I year's subscription to RSGB.
- 1 bottle of Limavady Single Barrel Malt whiskey courtesy of Limavady Whiskey Ltd.
- £50 voucher for Spar Irish Green St. Limavady courtesy of Culbertsons.
- £50 voucher for use at Gracelands Glamping Ballyronan.
- £40 voucher for Spar Millburn Rd. Coleraine courtesy of Henderson Retail.

These prizes are worth over £1000 in total

*In addition to the above we have several prizes for the entry tickets and all proceeds are in aid of the **Air Ambulance Northern Ireland**.*

Latest HAARP Experiment Incorporated Ham Radio Input

Researchers in Alaska will soon be sifting through the results of some major atmospheric experiments - ones that included input from hams around the world. Following an intense 10-day period of experiments that were to be concluded by Friday, October 28th, scientists at the High-frequency Active Auroral Research Program plan to be studying their results along with observations from participating amateur radio operators.

Hams had been invited to monitor daily transmissions that included HF ocean scatter, interactions between satellites and the ionosphere, moon bounce and an unprecedented attempt to bounce a signal off of Jupiter. The scientists were also exploring possible reasons behind the airglow phenomenon known as Strong Thermal Emission Velocity Enhancement, or by the acronym STEVE, and testing whether radio transmissions could be used to measure the interiors of near-Earth asteroids.

The program manager, Jessica Matthews, called the research the most diverse to ever take place at the Alaska facility and contained the highest number of experiments to date. She said researchers were relying on citizen scientists around the world. The research was funded by a $9.3-million grant from the National Science Foundation.

Participating hams were able to file their reports electronically to the lab, making them eligible for QSL card

News and Forthcoming Events

Irish Net

Active not only on Sundays, but most weekdays starting at around **16:00 UTC, the informal gathering on 14.156 MHz** frequently suffers from QRM during contests and DXers unaware of this long standing net of North American operators with an Irish connection. In a recent contact on 20m with WI1IDP, QTH Tuscon Arizona, operator Jerry confirmed that the net now also uses the **17m band operating on 18.114 MHz**, avoiding the increased QRM on 20m and taking advantage of improved propagation conditions

Saint-Malo Radio Club Special Event

Members of the Saint-Malo Radio Club will activate special event station, TM8R, during the 'Route du Rhum', a sailing ship race from Saint-Malo (France) to Pointe-à-Pitre (Guadeloupe Island). The activity will take place between **October 27th and November 6th.** The and team will be active on all bands, all modes. For more information, see the "Association des radios amateurs de la côte d'Emeraude" (ARACE) Website at (http://www.arace.fr/) as well as (http://www.routedurhum.com/fr) page. QSL via F5BNJ, direct, by the Bureau, ClubLog or LoTW. An online log will be available at: http://clublog.org/logsearch/TM8R

WinRFCalc

WinRFCalc free RF calculator now has a website to keep users informed about the capabilities of WinRFCalc, a website is launched on https://rfcalculator.com/ where current and future calculation tools are shown.

Updated RSGB EMF Calculator

The RSGB have released an updated version of their online EMF Calculator to enable radio amateurs to check EMF exposure limits. Version v2.0.1 is available as a web app athttps://rsgb.org/emfcalculator RSGB EMF page https://rsgb.org/emf

We Have a Facebook Page

The Connacht Regional News Magazine

https://www.facebook.com/groups/1437072523434876

RSGB Construction Competition

The RSGB recognises the importance of construction as a key element of amateur radio, whether that is using traditional construction skills or a software or systems engineering project.

Following on from the success of last year, the annual RSGB Construction Competition will again be held online with entries judged over the internet. This will allow RSGB members from across the country, or indeed from across the world, to participate and demonstrate their creativity.

Categories

The judges will be considering entries in four categories:

1. **Beginners:** a chance to build a kit, create your own antenna or construct something else to help you take your first steps into amateur radio
2. **Construction excellence:** recognising the skill and craftsmanship used in building the entry
3. **Innovation:** recognising an original contribution to the art and science of wireless or radio communication

Software: recognising the importance of software technology to all aspects of amateur radio. The judges will choose the section in which an entry is judged and the number of prizes/awards, after they have looked at all of the projects submitted.

A cash prize will be awarded for the winner of each section, with a bonus for the overall winner, who will also be declared the winner of the Pat Hawker G3VA Trophy

Special recognition

The judges will give special recognition to entries submitted by:

1. Radio amateurs under the age of 24

Those who have just gained their Foundation licence

The judges will choose the section in which an entry is judged and the number of prizes/awards, after they have looked at all of the projects submitted.

How to enter

1. Email a short description of your entry and up to four photographs to construction.competition@rsgb.org.uk
2. If you would also like to send a link to a video that demonstrates your entry working, that would be very helpful for the judges

The deadline for us to receive your entry is 1 March 2023. The results of the competition will be announced during the 2023 RSGB Annual General Meeting in April next year.

Would You Like to Promote Your Club and its Activities?

Is your club planning an event in the next month?

Are you planning a club activity?

Are you setting up a new Repeater or Gateway?

Drop us a line or two and we will include your item in the Connacht Regional Newsletter

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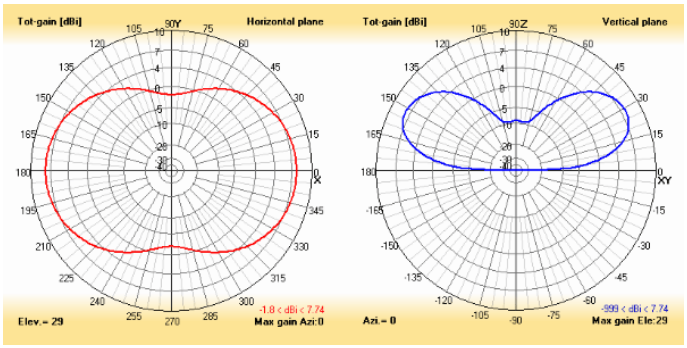
Experimental Radio - Part 2

Dipole Antenna For Beginners And Experimenters Continued:

We saw last month the basic design of a dipole and gained some insight into the why and how: the dipole is of course a standard reference against which most antennas and antenna gain is measured.

A dipole can be installed horizontally, as an inverted vee, as a vertical and as a sloping antenna. The installation is only limited by imagination, support and space considerations and required results.

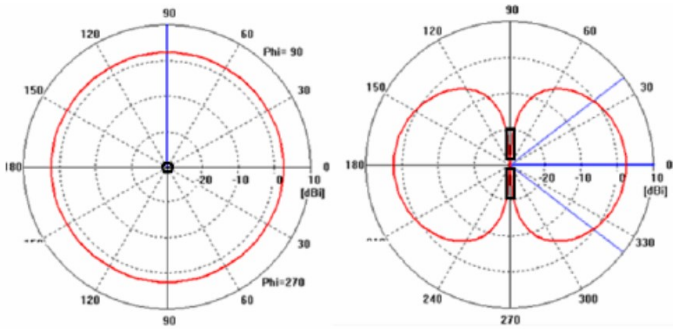
In a horizontal and an inverted vee dipole at ½ λ above RF ground the typical doughnut pattern of transmission power is achieved broadside to the wire antenna itself. Therefore, a dipole running North to South will deliver almost ½ of its power East and ½ of its power West, with a 100-watt input to this dipole, you will get the effect of almost 50 watts in both those East/West directions and with very little power transmitted off the ends of this arrangement. Clearly you should endeavour to hang your antenna to favour the intended working directions.



Radiation Pattern of a Horizontal Dipole

L - Viewed from Above and R - viewed from the side

Now consider the transmitting pattern of a vertical Dipole, fed in the centre, hanging from a support above and secured at the lower end. This time the transmitting pattern is omni directional 360 degrees.



Radiation Pattern of a Vertical Dipole

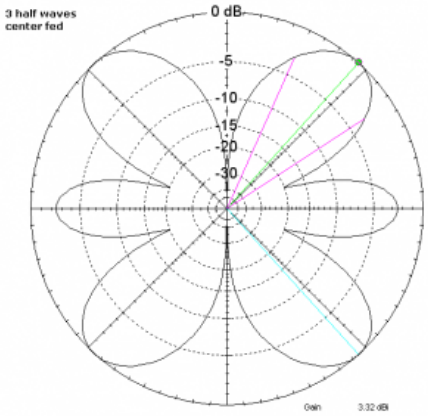
L - Viewed from Above and R - viewed from the side

Again, consider a 100-watt input where you will get approximately 0.3 watts per degree of compass -effectively QRP. Put in 1000 watts and you will only achieve 3 watts per compass degree – still QRP. Never even think that a single vertical antenna can beat a simple dipole properly installed in most conditions. Note, it does not matter what magical name this vertical is called, don't be led astray. You hear this boast on the bands these days "I've got a DX Commander "– my goodness! – or I've got a Gap XYZ" it's just a vertical no magic, end of story.

The free advertising is great for the manufacturer of course. The magic, if there is any, is in (1) the installation (2) the radial system and (3) the feedline. Real magic happens when you phase 2 or more verticals for directional working. Gain however usually comes from the use of an amplifier in most cases.

The typical single band vertical arrangement is simply as follows; the ¼ λ vertical section is ground mounted, insulated from its mounting structure and then a number of resonant radials, each a ¼ λ, on the required frequency are added. Of course, the quarter wave radials could be installed for every degree of compass giving the light bulb without the reflector effect. They could also be installed to favour certain directions. Bundles of 3 could be cut to favour a wider range of frequencies in order to broadband the arrangement. Let's say the verticals section is cut to resonate at 7.100 KHz, the radials could be cut to resonate on 7.100. 7075. 7125 KHz as an example in bundles of 3 or 6 radials or more. It's easy to tune just one radial, so do it for just one radial at a time, then cut the remaining radials to the lengths you have found will resonate as desired. A whole book could be written on the subject, the above is simple to get one imagining what can be done. Only tools needed, brain, VSWR bridge or analyser, transmitter.

Now consider again the simple dipole and its pretty broad angle of propagation. How could we better this? One simple why is to use a 3/8 λ or 5/8 λ element either side of the feed point-space permitting instead of the typical ¼ λ.



Radiation from a Horizontal 40 metre Dipole Transmitting on 15 metres viewed from above

Often people using say a 40-meter dipole will find that same antenna works with some gain on 15 meters. This is of course true and takes advantage of the above simple idea.

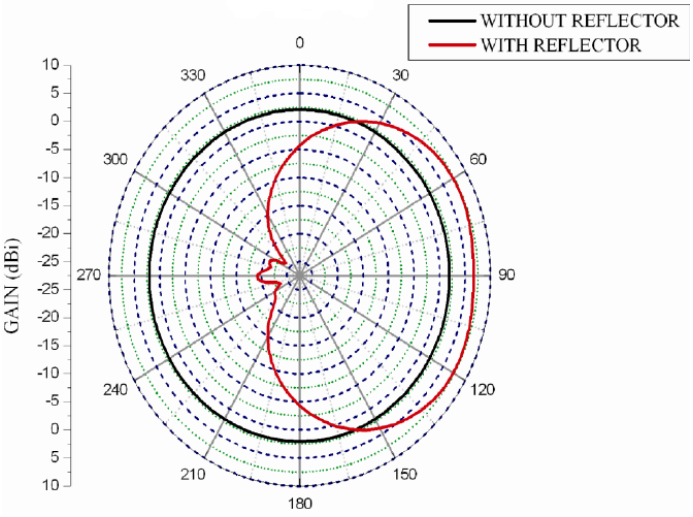
In the case of a 3/8 λor 5/8 λ element being used, the beamwidth is narrowed somewhat from the doughnut shape to a much sharper focus – think of a torch with any adjustable beamwidth or moving reflector.

A more elaborate way to do this, again thinking about the mirror and light bulb effect, is to place a reflector element behind the dipole element (parasitic element) - the calculations for this are a little complex but can be found in earlier articles (5 element wire beam for 80 metres) etc. However, it's enough for now to know that the reflector will generally be always a little longer that the driven element (the dipole in this case) usually about 3 to 5%. A parasitic director will be shorter by the same percentage approximately. The spacing of these elements is generally

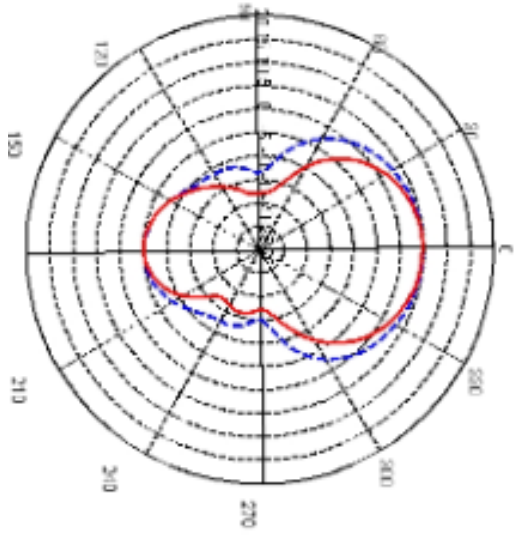
Experimental Radio - Part 2

somewhere around 2% of the wavelength and is adjusted in the field to deliver: (a) the required impedance at the feed point, (b) the forward gain maximised keeping the impedance in mind, and (c) the front to back ratio maximised, keeping the feed point match in mind.

Measuring these parameters can be done at around 30 wavelengths away from the antenna in the field -using simple tools (a) Brain, (b) Transmitter and (c) a mobile or handheld receiver. Either remotely transmitting a low power carrier or having a second operator do this—a second operator of course needs communications with the one making the measurements. Always take reference measurements from just the dipole and note these.



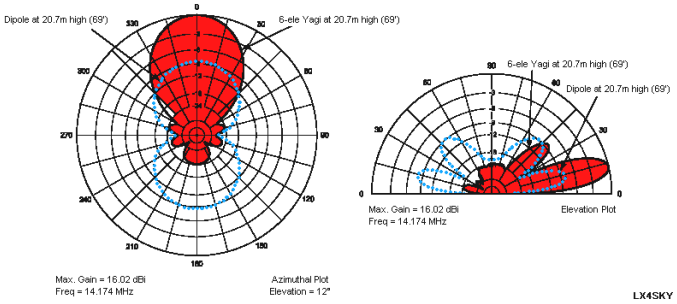
With this reflector (mirror) placed behind the dipole element and close to the same height and in the same plane. Much of the power that would have travelled in the direction of this reflector is reflected towards the dipole and combined with the power already transmitting in the opposite direction giving what is referred to as gain in the now forward direction. Now by placing a parasitic director in front of this dipole correctly spaced and in approximately the same plane and height. The resulting beam width is narrowed and somewhat more focused, thus the gain in this beam direction is increased.



Dipole with Reflector and Director - Beamwidth is narrowed

(3 Element Yagi)

By adding further elements, the beam width is narrowed even more and better focused on the target area. The gain is again increased of course. There are two considerations here take off angle and beamwidth + any near field obstructions Bill Orr Termon EZNEC etc-big subject.



Radiation pattern from a 6 element Yagi Antenna

A dipole with a reflector behind it and 4 director elements

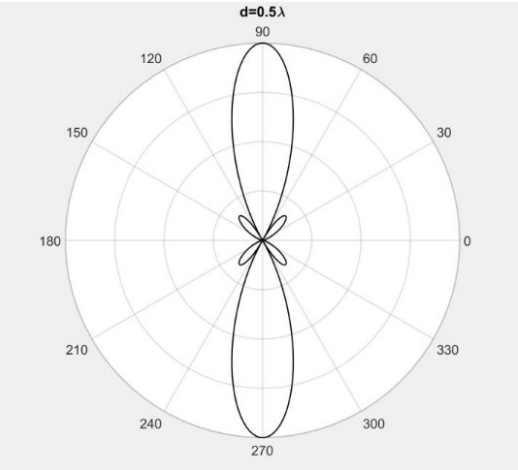
So now let's say we have set up our 3 elements beam as above, and optimized it, again assuming a reasonable gain of say 3 DBi - what does this mean? First, we have not increased our overall power at all. Secondly however we have increased our power in a certain or wanted direction.

When trying to work a distant station in the chosen direction there is no doubt but that both the receiving station and your own receiver will see the benefit. If using 100 watts at the feed point, the ERP in the chosen direction shows a big gain equal to more than doubling the power into a dipole to get the same effect.

The downside, if any, is that other directions will suffer a reduction in power levels and receiver gain. This of course is only relevant to a fixed beam. If you rotate the beam then you simply point to where you want to work. The benefit apart from gain is a reduction in unwanted signals. Antenna gain is not an increase in power as such, it is an increase in power in the chosen direction less power in other directions with a consequent reduction in unwanted signals. Gain is also to be had from the use of an amplifier – the same theory applies of course as regards dipoles versus beams.

Again, where verticals are concerned there is a great benefit to be had from phasing these antennas to deliver gain and steerable gain provided one gets the phasing right.

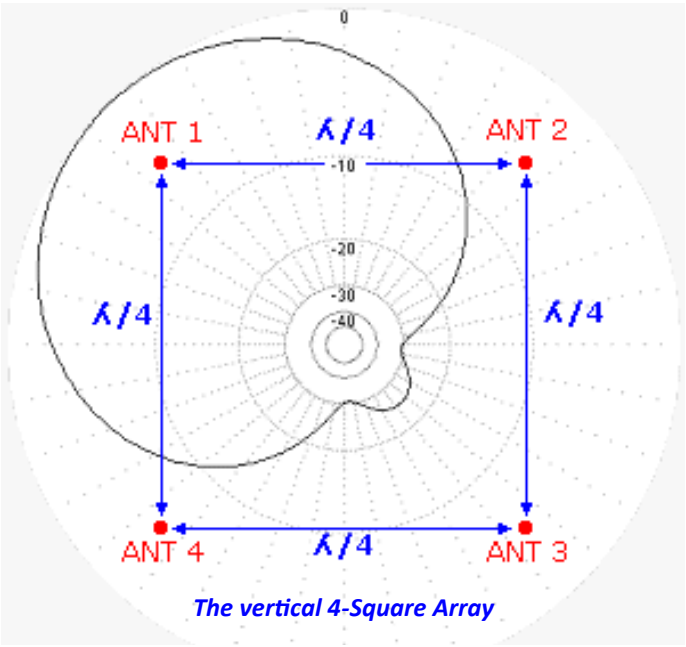
Just a pair of correctly spaced and phased verticals are indeed a powerful tool when it comes to low angle DX working.



Radiation patter from a pair of phased dipoles

Experimental Radio - Part 2

A 4 square can deliver even better all-round directivity and steering - again the phasing and spacing is critical.



The vertical 4-Square Array

Next month we will discuss using a Balun, Height, Near field obstacles and the like above Sea level in HF transmitting. Using different RX antennas to maximise DX operations –defeat QRM and QRN and so on

Marconi Radio Group - EI0MRG

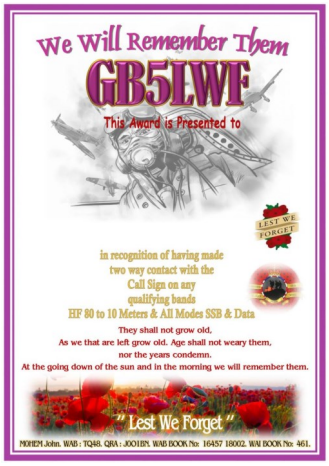
wescomradio@gmail.com

For just 15 Euro Membership you can get an individual AXA Public Liability Insurance Cover of €9,000,000. This is applicable to all Member states of the EU. Why not affiliate your club also and obtain cover for all club events. This organisation does not require you to declare your membership for their DATABASE!

John O'Toole, M0HEM, whose family hails from Galway, is a dedicated radio Amateur who may be heard regularly on the amateur bands. Not oonly does he collect awards, but also champions many special event stations for special causes.

The Special Callsign will be active from the Ist of November until the 28th of November. Of course the letters LWF stand for "Lest We Forget"

It should be noted that the Poppy Appeal Fund supports the Armed Forces communities across the UK, Allied Forces and the Commonwealth although many other countries have a similar charity. John can often be heard operating on 40 metres during the daytime and on 80 metres at night time.



If you wish to donate to this worthy cause feel free to use this link: https://www.justgiving.com/page/john-otoole-m0hem

John also is an keen supporter of the Air Ambulance and Helicopter Emergency Medical Service. A list of awards may be found on his QRZ.com page https://www.qrz.com/db/M0HEM John uses the Callsigns GB1AA, GB1NAA and GB1EAA for many of these operations. Do give hm a call and support his cause.

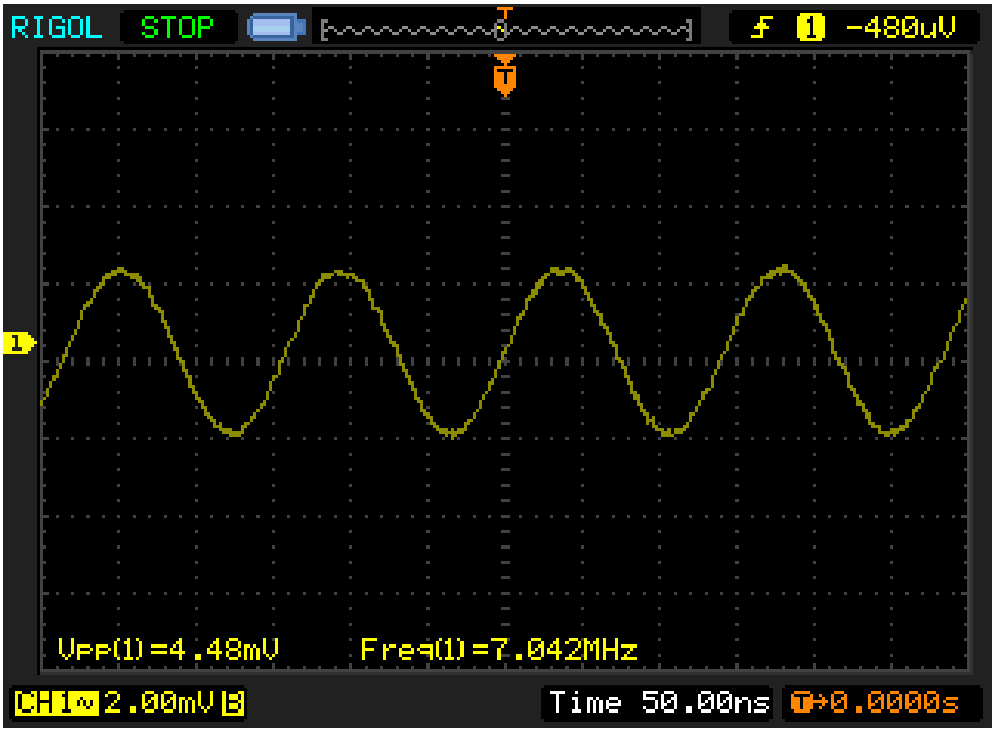
Setting Up A Home Lab For The Radio Experimenter

One of the advantages of being a Radio Ham is the ability to 'home brew' your own equipment. Over the past few years, I have been building one project or another. This article, I hope, will help you set up your own home lab and encourage you to build your own projects. Ebay is awash with radio kits from the Pixie 40M CW transceiver to the Forty9er and the Tr(u) SDX 5 band all mode 5W transceiver. You can also buy kits for audio amplifiers and power supplies. Google is also your friend for circuit diagrams and lists of vendors who sell parts and supplies.

The Workshop

So, what do you need to set up a home lab? Well, for the very basics you will need a multimeter, soldering iron, solder and a power supply. I just bought a multimeter from Lidl for €12, and you can buy a soldering iron on the cheap for about €5 from Ebay. You can also buy a variable power supply from Ebay for buttons. This would be the bare minimum for building circuits and kits. To have the dream workshop you could spend thousands on the best of the best of equipment but like me, you can start off low and over a few years you can add to your tools and equipment.

One of the best tools that is indispensable for the home brewer is the multimeter. As I said before you can find a bargain like the one, I bought from Lidl just last week. It's auto ranging and can handle up to 10 Amps. It has a buzzer for continuity and a diode checker. I wouldn't spend more than €50 on a multimeter and it's better to have more than one so you can measure voltage and current at the same time.



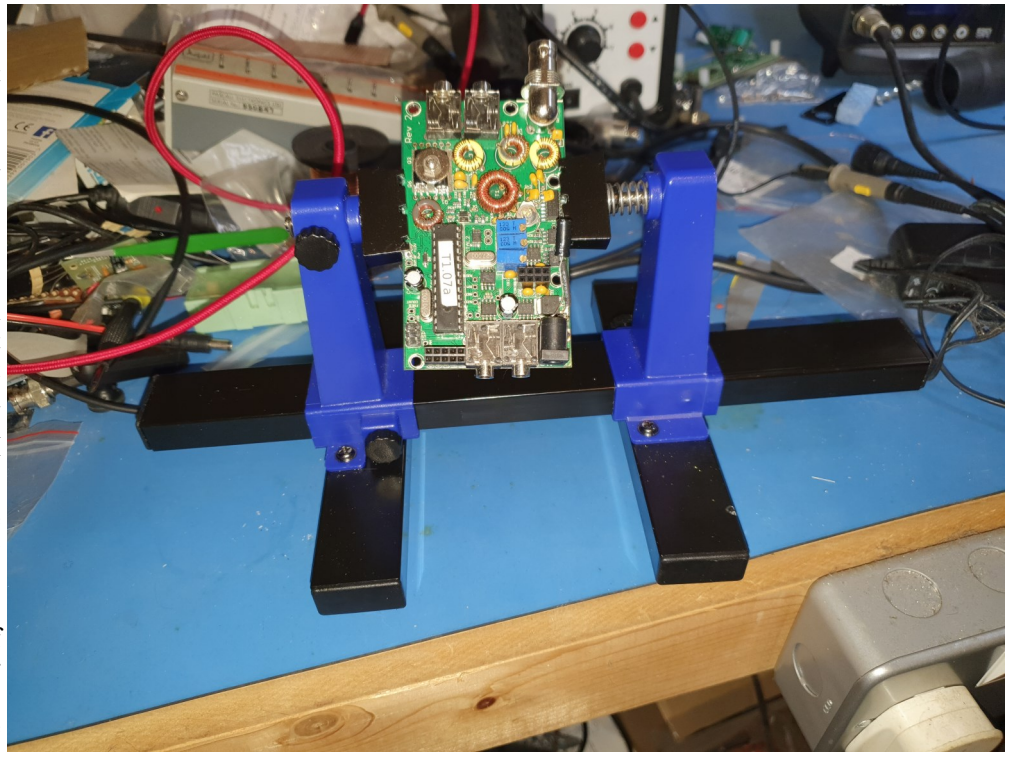
Signal trace from the 40m QCX mini-Transceiver Project

My favourite item of test equipment is the oscilloscope. You can mortgage your house to buy the best or you can buy an old CRT scope from Ebay for not a lot of money. My advice though is to save up and buy a DSO (Digital Storage Oscilloscope). They are not too expensive now and a lot cheaper than a brand-new HF transceiver. A USB stick can be connected, and waveforms saved as a .bmp file and you can pause the scope and zoom in/out and do various calculations like frequency, voltage etc. Back in the day when I was training for my City & Guilds Electronics, I had to use the formula freq=1/t, count the squares on the screen then get the calculator out. Now you just press a button or two and the frequency shows on screen. I have a two channel 100MHz DSO and it does everything I need to do. I built a kit the other day and it didn't

Setting Up A Home Lab For The Radio Experimenter

work, with the DSO I was able to trace the signal from the oscillator to the antenna output and straight away I found the problem, I inserted a chip the wrong way round. Having a scope quickly found the fault.

Next on the list of essential equipment is the soldering station. I bought mine from Maplin years ago and I forget how much I paid for it but it wasn't too expensive. It has a digital temperature output and has an exchangeable tip. I only use the chisel tip and it's set to 400c all the time. I only change the temperature if I'm soldering a PL259 or similar.



Circuit Board Holder

Another useful piece of equipment is the signal generator which is useful to inject a signal into a receiver and using a scope you can trace a signal though the circuit. I have a fancy 10 MHz signal generator, but I do plan to upgrade soon to a 30 MHz generator. You don't need a fancy one and again it can be bought on a budget.

A variable current limiter power supply can save your circuit. By limiting the current, you can gradually increase the current to test your project and if it goes higher than you plan you can wind it down and save you circuit. A decent one can be bought from Amazon or Ebay for around €50 to €70.

Now that we have the essentials it's time for the nice to have. A magnifying lens with a light makes everything a lot easier. When you solder a component, have a quick look through the lens for solder splatter and bridges. It's easier to do as you work along than doing it when you've finished, although I always have a quick look at the end anyway just in case. A hot glue gun (also known as a hot snot gun) is useful to glue things down and again is very inexpensive. Every so often I treat myself to nice toys and one of my recent purchases was the Atlas LCR meter.

When I'm building a circuit, I test every component before I install it. The Atlas reads inductance, capacitance and resistance. It's not essential but it's nice to have and prevents you from making mistakes like installing the wrong component value. I also recently bought a transistor tester from China, I think it cost me about €20 and again, it's nice to have and takes away the guess work when diagnosing a circuit. Another nice tool to have is a circuit board holder. It holds the board whilst you are soldering and you can flip the board over to install your next component. Again, nice to have, makes life easier but you can work without it. Next you'll need some tools, so buy some small screwdrivers, pliers of various sizes and very important, flat side cutters. Buy a couple, they are very cheap, and keep one for cutting component leads and one for general use.

A solder sucker, de-soldering braid and a flux pen will make life a lot easier for you. Other items I have but are not essential: a drill press which is handy to drill holes in your project boxes; a Dremmel for those small holes and cutting thin metal and plastic; an anti-static work mat that's connected to earth when working with static sensitive components; and finally a wall mountable component drawer set. Not forgetting components, buy a selection of various values of resistors, capacitors, transistors, diodes, inductors and refill them as you use them. Don't forget about a 3D printer for printing your bespoke project boxes but that is an entirely different subject!

So that will set you up nicely to make a few projects and get you started. As the months and years go on, you can add equipment and tools and find a setup that suits you. The winter is a good time for home brewers, play your favourite playlist and spend a few hours tinkering away with a kit and when you get it to work, and you will, the pleasure is immense and hard to beat. When it doesn't work, and yes you will have failures, you have the equipment ready to fault-find and when you find the fault and fix it, again you get a buzz. Better than any drug.

One of the benefits of the modern world is the internet, there you will find someone who has already built your project, and someone has already fixed the problem you have found. There are plenty of articles on projects, circuit diagrams and with Ebay and Amazon you can find great deals on tools, equipment and parts.

So that's it for this month. If you have any questions or suggestions, feel free to email me and I'll see you all next month.

Micheal Na bPoib - MI0HOZ

mick.conaghan@gmail.com

Building And Using The Tiny GS

I saw on one of the IRTS New feeds a reference to Tog Hackerspace in Dublin (https://www.tog.ie/) and an event they were running called "Building a TinyGS Station Workshop" on 17-Sep. From the tinygs.com website: "TinyGS is an open network of Ground Stations distributed around the world to receive and operate LoRa satellites, weather probes and other flying objects, using cheap and versatile modules".

So - liking space, radio and generally nerdy stuff (see https://slackprop.wordpress.com/2013/06/03/on-geek-versus-nerd/ for the difference between a geek and a nerd this was intriguing so I booked the event.

The goal of the event was to build a tiny ground station that you could bring home with you - all in 2 hours. Credit to the members of the Tog Hackerspace - they were very welcoming and enabled us to achieve our goal. They had already prepared the main board (by flashing the necessary image) so that most of the time was spent assembling the components (especially the antenna which took the longest time) and then configuring your own personal ground station.

The "steps" outlined below were all done in the Tog Hackerspace in Dublin, but for this article I repeated the steps at home to show how it all comes together. My sincere thanks to the Tog Hackerspace for running the course, for their patience and in particular their enthusiasm for this project.

The components of a TinyGS:

The main component (or board) is the TTGO LoRa32 from LilyGO, which is a microcontroller based on an ESP32 with a built-in LoRa, Wi-Fi and an OLED display.

The following pictures show the size of the board in relation to the cap of a Bic Pen:

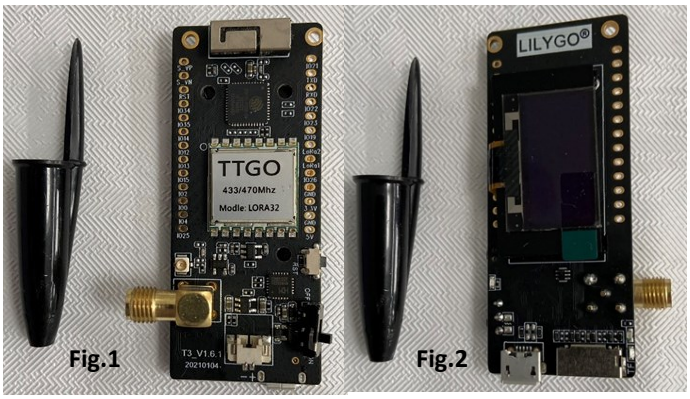


Fig. 1 Side A showing the Antenna connector, the frequency stamped on the main chip, and various other components on the board.
Fig. 2 Side B showing the OLED screen along with the USB power input.

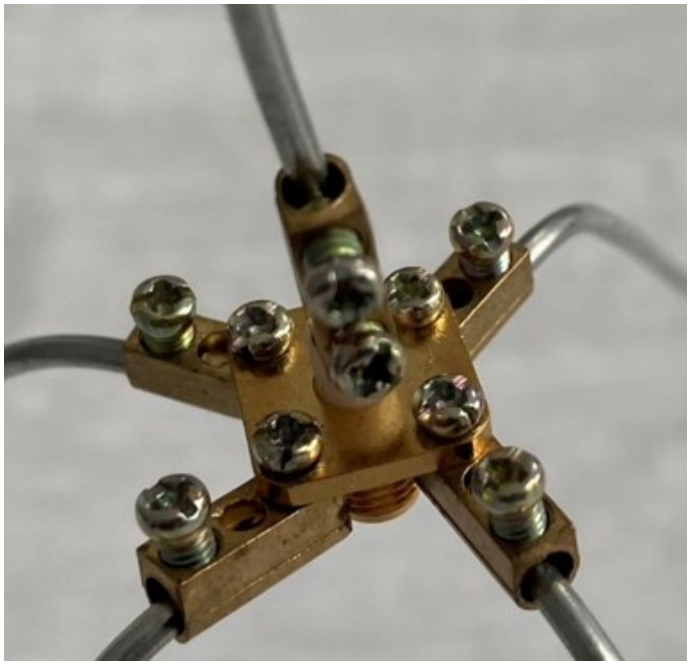
As you can see, it is tiny! But it has everything it needs from a component perspective to be able to use an antenna to communicate with satellites to forward that information to a central system via. your home Wi-Fi.

The other components we were provided with were:

1) SMA 2 SMA connector
2) USB-A to micro-USB cable to power the TinyGS
3) Connectors and antenna
4) A box of terminal strips
5) sma-female-sma-female-panel-mount
6) Weather proof box

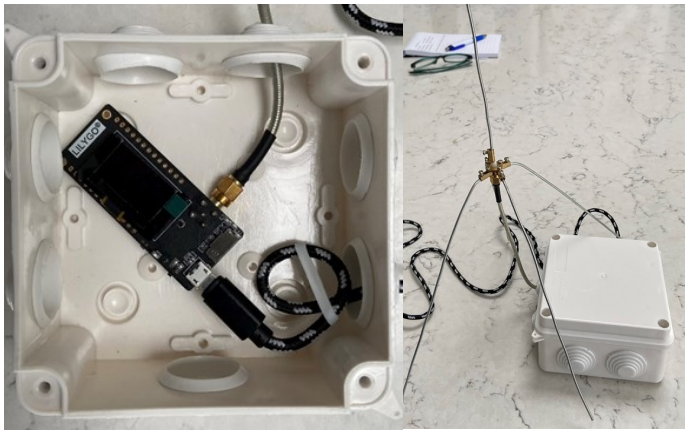
Putting it all together:

As indicated earlier, most of the work went into building the antenna which had 4 radials and 1 vertical - all connected to the SMA Panel Mount. A close up of the central part of the antenna is shown here:



You can see where the insides of the terminal strips were taken out and used to connect the radials to the central SMA Panel Mount, and used to connect the vertical to the SMA - this allowed us to make an antenna relatively quickly!!

Once the antenna was completed, it was a matter of making small holes in the rubber seals of the weatherproof box, and then connecting everything together:



L - Inside the Waterproof Box R - All connected together

Initially I had the complete kit set up inside the front window of the house but the quality of reception was not great for 2 reasons:

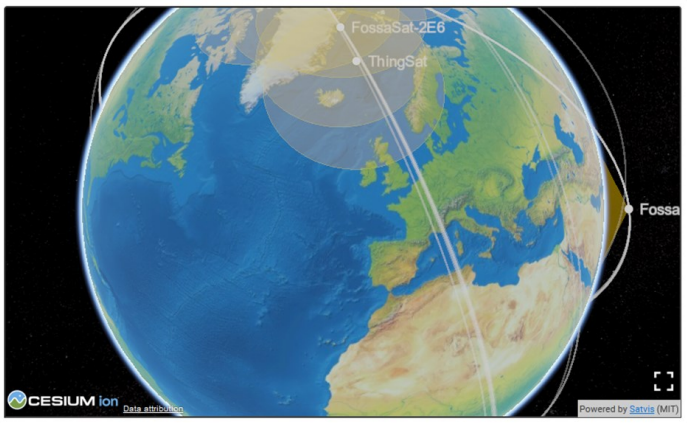
A homemade antenna
Triple glazed windows

So I then connected a small whip antenna I had to the receiver, and ran the cable thru' an open window. This provided way better results and worked solid for 2 weeks -

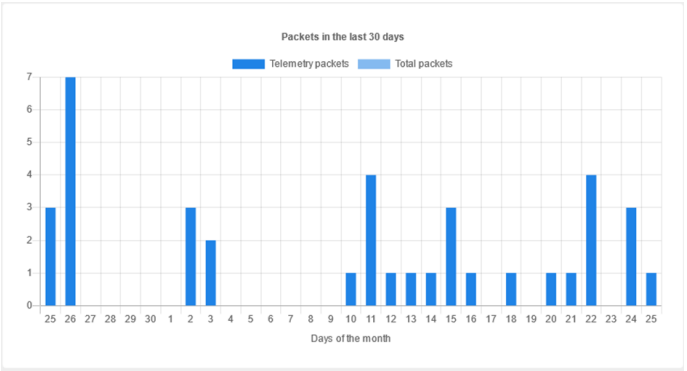
Building And Using The Tiny GS

until the weather got cold - I had to revert to the antenna being inside the front window as shown here:

When configuring the receiver, it is important to name your ground station, so I used my callsign with some additional information (EI5IPB_TGS1) and going to the www.tinygs.com website, clicking on stations and searching for my station name, you can then see the following information (as of writing this article):



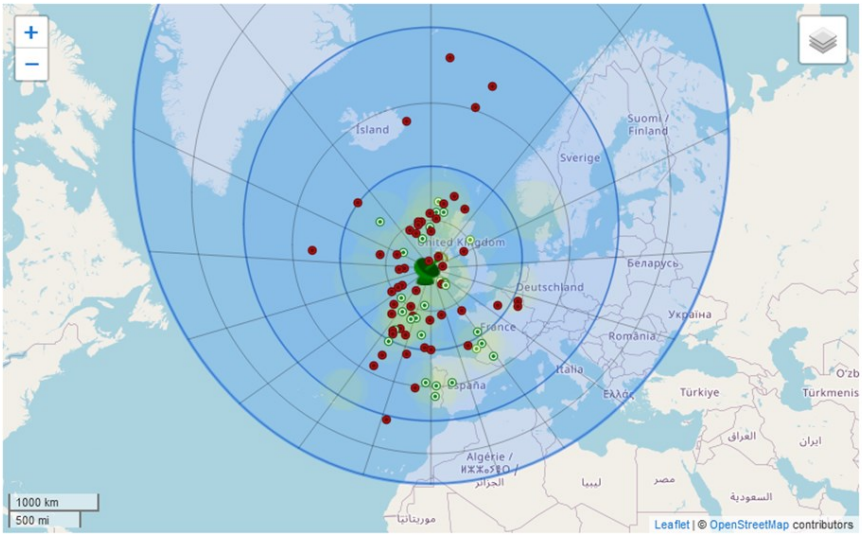
Current Satellites coming into view



Number of telemetry packets received per day over a rolling month. With the ground station outside, I was getting closer to 20 packets per day.

Status	Listening	Version	Creation date
Online	FossaSat-2E6	2105260	a month ago
Last seen	**Last Packet**	**Position (Lat, Lang)**	**QTH Locator**
a few seconds ago	7 hours ago	53.26, -9.113	IO53kg
Elevation	**Auto tuning**	**Test mode**	**Confirmed packets**
11.00 m	ON	OFF	165
Telemetry packets	**Type of antenna**	**Band**	**Record distance**
160	--	null - null MHz	2582.2 Km

The Tiny GS Configuration File



"My view" of the satellite world

To see the real-time view, look at

https://tinygs.com/station
EI5IPB_TGS1@678333795

for my ground station information, or on the home page zoom around and click on other ground stations.

Paul O'Connor EI5IPB

Rebuilding a Clansman 1AH 24V Battery

The objective was to undertake a basic rebuild of a 1Ah 24v alkaline Clansman radio battery (NSN 6140-99-620-8058) to allow it to be used on various Clansman radios, particularly the PRC-320 and PRC-351.

The battery arrived among the ancillaries with a recently purchased PRC319. It was manufactured in July 1989. Unlikely to charge, let alone hold a charge, the battery was test-charged **Fig. 1** under constant observation using a standard Clansman 28v battery charger (NSN 6130-99-117 -0450).

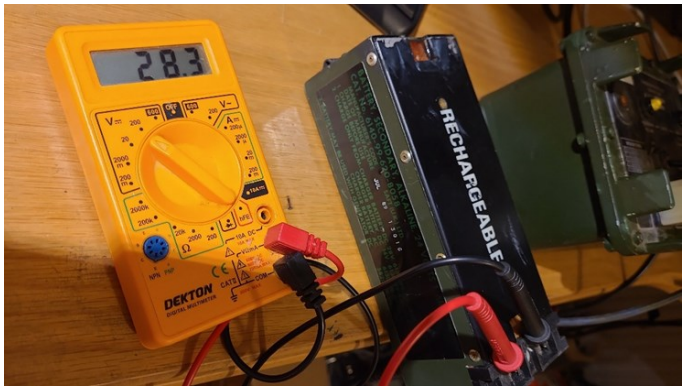


Fig. 1 The test Recharge

The battery case soon became hand-hot and after ten to fifteen minutes it began leaking battery content which appeared to 'boil' and bubble out of the top of the unit **Fig. 2.**

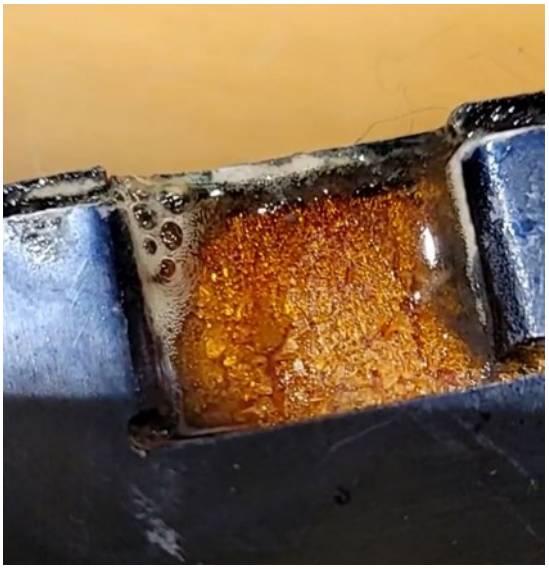


Fig. 2 The leaking cells come to the boil
Unsurprisingly, the battery did not hold a charge

As the case was in a very good cosmetic condition, there was every chance that the battery could be refitted with a similar voltage and ampere battery and made serviceable again.

The first task was to open the unit and remove the leaking alkaline cells and their foam packing.

Drilling out the eight rivets in the lid and gently prising it off with a screwdriver revealed the damage to the individual cells (fig. 3).

Fig.3 Drilling the foam packing out and the damaged cells.

The battery pack in Clansman batteries is encased in a hardened foam which needs to be chipped away to loosen the pack allowing it to be removed cell by cell. This is time consuming, especially on the larger 3.3Ah Clansman battery.

Some portions of the packing foam came away easily and the remaining mass was simply drilled in situ to turn it into powder and the resulting mess hoovered away.

This revealed the cells and with a bit of manual effort they came out easily.

Then the remaining matter was effortlessly, if rather brutally, cleared using an end brush on a drill **Fig. 4**. This procedure was carried out wearing eye protection and a mask: there was a lot of loose 'stuff' flying about.

Fig. 4 The cleaned-out case and contacts

The original battery contacts were cleaned and were suitable for re-use. The heat-sensing diodes in the battery, which are part of the Clansman charging sensor system, were already damaged and were discarded.

With a cleaned-out shell, clean lid and clean contacts to hand **Fig. 4**, the question was what to replace the alkaline cells with. Some advice from a radio guru friend and a search on E-Bay led to a 24v 2Ah lithium e-bike battery (with charger).

This new battery was the right dimensions to fit into the case **Fig. 5**. After soldering its leads to the original battery contacts, checking the voltage, and strapping up the case with cable ties the rebuilt unit was tested on PRC-351 and all was correct on transmit and receive **Fig. 6.**

Given the low power of the battery relative to the 30-watt PEP of the PRC-320 and the 50-watt PEP of the PRC-319 the battery is more suited for the lower power 5-watt PRC-351. It powers the PRC-320 satisfactorily on receive.

Recharging is done by slipping the cable ties and lifting the

Rebuilding a Clansman 1AH 24V Battery

Fig. 5 Ready for the refit

Fig. 7 In place on RX on a PRC-320

Fig. 6 In place for an initial test on a PRC-351

lid of the battery case to connect the charging cable. It would be possible to mount a DC socket in the unit and connect the battery to it, but this is a 'least-effort, rough and ready' rebuild.

The battery read 21.3 volts on arrival and at that level gave close to four hours service between tests on a PRC-351 and a PRC-320. At 16.8 volts on receive on a PRC-320 the battery announced its need for a recharge by simply and suddenly cutting the set out.

The rebuild was hardly to original standards and was in no way intended to reproduce a replica battery. It recycled an otherwise unserviceable unit to working condition through an enjoyable experiment in controlled destruction and reconstruction and the most primitive rebuilding techniques.

Michael Kennedy EI6IRB

DX Féile 2022 Saturday November 5th 2022

This year's venue Shannon Springs Hotel, Shannon, Co. Clare

This year we needed to find another venue and we are delighted to confirm the Shannon Springs Hotel as our venue of choice for this year's event.
Kicking off at 10:30 am, the day will be packed full of DX related presentations and other DX Favourites such as the DX Quiz, SSB & CW Pile up Challenges etc and not forgetting about our giant DX Tombola raffle. Throw in a carvery lunch, a 4 course dinner later that evening, Craic agus Ceol at the hotel bar and a comfortable room to bring the day to a close. A great place to meet and greet fellow DXers!
Price is €160 Per Person Sharing which includes admission, lunch, dinner, B&B (twin/double)
Single occupancy is €220
Numbers are limited this year so please book early to confirm your place.
Bookings/ Enquiries or Expressions of interest to
Dave EI9FBB ei9fbb@gmail.com or +353877444777

DMR Operation in Ireland

Whilst DMR is an excellent communications mode, it should be borne in mind that it was designed for the commercial communications market. It is not an "Amateur mode" and has no frills, bells or whistles. The Infamous code plug seems to be the stumbling block for many but is no different to that awful program "CHIRP" that so many use.

I will not delve into the programming of a code plug in this article as there is a publication available from the EI7GL Blog https://ei7gl.blogspot.com/2021/09/digital-radio-operating-manual-sept.html which covers programming and also describes other Digital Voice Communications systems.

What is Brandmeister

BrandMaster/BrandMeister is an operating software for Master servers participating in a worldwide infrastructure network of amateur radio digital voice systems. There are 47 Master Servers located around the world. These are managed by SysOps who regularly upgrade the software and maintain the system.

In simple terms, the Brandmeister Server is wholly responsible for:

1 Routing traffic throughout the network
2) Facilitating roaming within the network
3) SMS messaging within the network
4) APRS messages to be sent via the system.

In Ireland we have two repeater networks, one located in the Southeast and the other in the West of Ireland. There is a DMR Repeater located in Co. Louth, North Dublin, and Cork. In addition, there are 2 metre Multimode Digital Gateways located in Roscommon, Galway, and Kildare and these have DMR capabilities.

A DMR Repeater has two Time Slots (TS) - Time Slot 1 and Time Slot 2. These can operate simultaneously, and it effectively means that whilst one QSO is taking place on TS 1 another can take place on TS 2 at the same time. This is the equivalent of having 2 repeaters operating from the same site.

Talk Groups

A Talk Group (TG) is an ID code transmitted by the radio accepted by the repeater and retransmitted to other DMR radios on the same channel, and potentially across the Network to other linked systems. If your radio is set to a particular talk group, it will hear any traffic on that talk group.

There are two types of Talk Group – a Static Talk Group is set up on a Repeater in such a way that any traffic will be passed through the repeater. An example would be TG 2722 which is the National Call Channel.

Check out the Brandmeister Talk Group listings for I,literally hundreds of International Talk groups. This list may be found here: https://www.pistar.uk/dmr_bm_talkgroups.php

The second is a User Access (UA) Talk Access Group which one can select on their radio and press the PTT which will allow the Repeater to connect to it and pass traffic on that Talk Group. Note, many Repeaters will stay on channel for only 15 minutes before resetting if there is no traffic.

There is no provision for "Club" Talk Groups – use a Chat Channel as there is plenty of room for all to use and, who knows you might have visitors joining in.

Arrangement of Time Slots

All of the Irish DMR Repeaters adhere the following set up.

Note the time slots as transmitting on the wrong Time slot may activate both time slots at once thus interfering with the second time slot and leaving the repeater on a full duty cycle.

Talk Group 9 is a LOCAL Channel only - TS 1 and TS 2

It does not route through the system and is for local use much like an analog repeater. Talk Group 9 can be set up on Time Slot 1 and Time Slot 2, which means that two independent conversations may take place at the same time without interfering with each other.

Talk Group 2722 is a Calling Channel - TS 2

This is a ***Calling Channel*** - Use this to place an initial call and if established move to the ***Chat Channel*** for the long conversation or a net. One should not hog the National Call channel!

Talk Group 2723 Chat Channel - TS 1

This is a chat channel and is used for that purpose, nets and any gatherings.

Talk Group 2724 - TS 1

Is a bridge to the YSF IRELAND system on C4FM also peanut links into this as well. This can be used as a ***Chat Channel*** and will include the C4FM and Peanut conversations as well.

Talk Group 8 - TS 2

Talk group 8 is a Cluster Channel and is primarily used to "Group" a local Network of Repeaters together in such a way, that if one is activated, all of them transmit together. This system is widely used in Galway where the whole county, and a good bit beyond, is covered by a network of 4 repeaters. It is used as a ***Chat Channel*** and used for roaming between the repeaters in the network.

Talk Group 8 is also employed by the Southeast Network of DMR Repeaters but "Groups" them together in a similar fashion to Galway. Again, it is possible to roam throughout the Southeast Network.

Northern Ireland Talk Groups

Talk Group 2354 - Calling Channel **Time Slot 2**
Tak Group 23540 - Chat Channel **Time Slot 1**

HubNet UK
Talk Group 23526 Time Slot 1

This Talk Group links into the Analog Allstar Network and you will always get a reply from this Talk Group.

To avoid congestion

International Talk Groups are assigned to Time Slot 1
Bridged networks to other modes such as D-Star, C4FM, and Peanut etc. are generally assigned to Time Slot 1

Roaming

Roaming is similar, in many ways, to the system used with cellular networks. Each Repeater is on a specific frequency and the radio checks which repeater is coming in strongest and automatically flips onto the strongest repeater. There are special settings in some radios which allow this to happen seamlessly. Anytone Radios do have a type of roaming system based on scanning channels which serves a purpose. This normally only works when the signal is actually lost.

Provincial Talk Group 7 - TS-1

Each Province has its own Cluster TG 7 located on Time slot 1. If there were a wider network of Repeaters this would link all repeaters in a particular province together. It would allow roaming throughout the province and would serve as a ***Chat Channel*** throughout the same province. However, there are not that many DMR Repeaters and they tend to be clustered in Co. Galway and Co. Waterford. This

DMR Operation in Ireland

is a system that may come into play further down the road as networks expand.

Living outside a Network of Repeaters

It is possible to access the Galway Cluster of Repeaters by using TG 27255. If you are calling through another Repeater network in Ireland, then this should be programmed on TS 1. If you are using your own Hotspot then you can program TG 27255 to whatever your system operates.

In the case of the Southeast Network's Cluster use TG 27240 on TS 1. Again, if using a Hotspot, set up TG 27240 to the system's operating parameters.

Talk Group	Time slot	Description
07	1	Provincial cluster
08	2	Regional Repeater Clusters - Contact Sysop for more information
09	1 & 2	Local Repeat only - does not route through the Server
2722	2	Ireland Calling Channel - QSY after call is established - No Nets here
2723	1	Ireland chat Channel—QSY once Call has been established on TG 2722
2724	1	Bridge to C4FM (IE YSF IRELAND & CQ IRELAND Wires-X)
27240	1	Southern Ireland Analog Repeater Network
27246	1	XLX 922 E home of AUS Repeater Net, CQ UK-1., CQ UK-2 Aberdeen Chat
27250	1	Provincial Cluster TG7 Connacht (Use Slot 2 if in Connacht Province)
27251	1	Provincial Cluster TG7 Leinster (Use Slot 2 if in Leinster Province)
27252	1	Provincial Cluster TG7 Munster (Use Slot 2 if in Munster province)
27253	1	Provincial Cluster TG7 Ulster (Use Slot 2 if in Ulster Province)
27254	2	Southern Ireland Repeater Group Cluster - Use Time Slot 1 if elsewhere
27255	2	Galway Digital Radio Group Cluster - Use Time slot 1 if elsewhere
272907	1	JOTA Ireland
27299	3	Data / APRS

Talk Groups 7 , Talk Group 8, Talk Group 2722 and Talk Group 2723 are set as Static on all Repeaters

Talk Group 8 links all Repeaters in a specific area together. Transmit into one Repeater and it will relay transmission to all of the Repeater in the Cluster

Hopefully the information supplied will clarify where activity may be found and on which Time Slots the Talk Groups should be programmed to avoid congestion. Whilst there is not a huge amount of activity on DMR at present, sitting on a Call Channel is neither good operating practice or appreciated by other users. Establish contact and then QSY onto a Chat Channel to continue the QSO. If you want further information about DMR Operation, Ffeel free to contact the SysOps of the Repeater Network as they will be happy to point you in the right direction.

The G7RPG Allstar Micronode

AllStar is a network of Amateur Radio repeaters, remote base stations and hot spots accessible to each other via Voice over Internet Protocol, similar to Echolink and IRLP, but far superior in my opinion.

If you want to get on Allstar, you can connect via an Allstar enabled repeater, if you are lucky enough to have one nearby, or you can build or purchase a pre-built Micro-node. Due to my lack of soldering skills, I opted to go down the pre-built route.

After some research, I came across the G7RPG Allstar micronode, built and sold by Peter Kendall G7RPG. I read review after review praising this node, so I decided to reach out to Peter, who was fantastic to deal with and the purchase was made.

To set up an Allstar Node, you must register with Allstar, who will assign you a node number. Peter explained that if I provided him with this number after registration, he would configure it completely, so it would literally be plug -and-play straight out of the box. He even gave me the option of building the node with either a wifi or ethernet connection. I opted for ethernet.

The G7 RPG Micro-node for Allstar

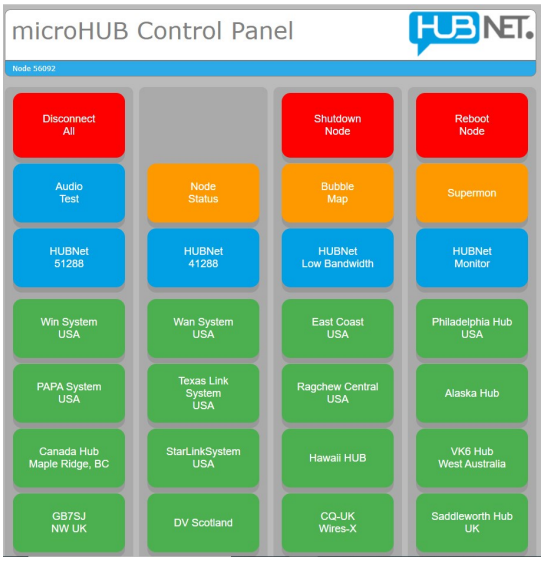
The node arrived about 10 days later and I could not wait to get it up and running. I was very impressed with the build quality of the unit and how compact it was. I was even more impressed with how easy it was to set up, I just had to plug in the supplied power adapter and connect an ethernet cable between the router and the node and it started to boot up.

The node comes configured with a transmit/receive frequency of 430.200 so all you need to do is to program a radio to this frequency with a CTCSS tone of 77hz and you are ready to go.

The node is operated using the DTMF tones on your radio keypad. This is all explained in the quick start guide that Peter supplies with the node. There is also a fantastic control panel with many quick access links to popular hubs/destinations around the world. This control panel is accessed by typing in the IP address of the node into your web browser, which is transmitted by RF to your radio when initially booting the node.

Rear view of the G7RPG Micro-Node

The audio quality of Allstar is outstanding, as clear as 2 metre FM with no R2D whatsoever. I am often blown away when having a QSO with a trucker on a highway via a US link who sounds like they are in the room next to you.



The G&RPG Micro-node control panel

The node can also be configured for Echolink via a pre-prepared configuration file on the node which just needs to be edited with your Echolink node information. This requires basic programming skills, but it is not too difficult and there are several videos on Youtube that explain the steps very well.

I have to say that my Allstar node is the best purchase that I have made over the past year. The Allstar network is growing at a phenomenal rate, and I can really see why. There is always an active node/hub somewhere in the world at any time of the day, so you will not be bored at all.

I know many amateurs enjoy the achievement of building their own nodes, but if you decide to go down the pre-built route, it would be hard to beat the G7RPG Micronode.

Jason Shaugnessy - EI3IQB

The µBITX Low Cost Multiband HF Transceiver Kit

The µBITX V6.0 is an ideal kit to dip the feet in the "SolderSmoke" world of Low cost Home Construction.

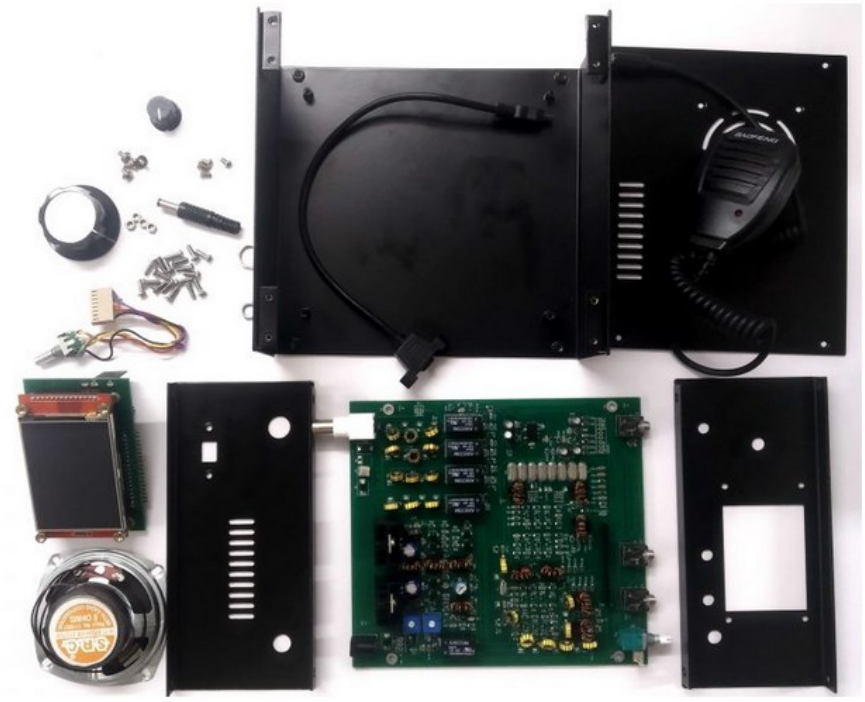
If you have never built a project before then this is the perfect project for you. The Transceiver board is pre-bult and all you have to do is solder the peripheral components and install the system into the case and voila—you have a perfect QRP HF bands transceiver running approximately 10 Watts on All bands 80 - 10 metres

Small is QRP

It is a small 6-1/2. inches by 6 inch board with minimum wires and controls that you can drop into any box and wire up within an evening. Add batteries and its low current consumption will make it an ideal travel companion or a great station rig.

Big on Performance

The µBITX has a sparklingly clear receiver. A roofing filter at 45 MHz and an 11.059 MHz QER SSB filter with a whopping 8 crystals. Powered by the Si5351, it gives you rock stable performance at all frequencies. Work that PSK31 or FT8 pile up or just rag chew the local gang. It sports a push-pull output and driver stage for a low distortion, big station sound. It uses cheap IRF510s for PA, so you don't have to worry about blowing up your finals, they are cheap to replace.



The Complete µBITX Kit

Assemble the µBITX transceiver in an hour with just a screwdriver! This is a general coverage, 10 watts HF SSB/ CW transceiver kit with features you NEED for operating ease, convenience and versatility. It works from 3 MHz to 30 MHz, with up to 10 watts on SSB and CW, with a very sensitive receiver. It features digital tuning, dual VFOs, RIT, CW Keyer and more.

Homebrewers have traditionally avoided making multiband transceivers as they can get extremely complex and difficult to make. There have been some remarkable successes in the past, the CDG2000 (designed by Colin Horrabin G3SBI, Dave Roberts G8KBB and George Fare G3OGQ) is one such design. The Software Defined Radio (SDR) route as followed by several designs offer some simplification at the cost of bringing digital signal processing and a PC into the signal path.

On the other hand, many of the homebrewers do need a general coverage transceiver on the bench as well as a base transceiver for bands beyond the HF.. The µBITX is a compact, single board design that covers the entire HF range with a few minor trade-offs. A key challenge for multiband transceivers has been to realise a local oscillator system with such wide range. Silicon Labs has now produced a series of well-performing oscillators that solve this challenge trivially : You connect the oscillator chip over a pair of I2C lines and it is done. The Si5351a/b/c are one such a family of parts that provides 3 programmable oscillator outputs in a small 10 pin TSSOP package. In this project the exploit this chip to build the multiband transceiver.

On Commercial Transceivers here are too many switches, modes and knobs to twirl around. The µBITX uses an Arduino to simplify the front panel while retaining all the functionality in a simple menu system that works with the tuning knob and a single function button. The rig supports two VFOs, RIT, calibration, CW semi break-in, meter indicator, etc. In future, more software can be added to implement keyer, SWR display, etc.

Contents of the Full uBITX v6 kit:

1. Main uBITX v6 board1. Main uBITX board with mounting hardware
2. TFT – Raduino Board with Display with mounting hardware for the front panel
3. Encoder with presoldered cable
4. Tuning knob
5. Volume control knob
6. USB extender cable
7. Mounting screws, nuts
8. Microphone
9. Power supply jack
10. Speaker

Cabinet (box) – chassis, front, back panel and top panels

The full kit will cost $209.00 and postage on top of that available from https://www.hfsignals.com/index.php/buy/

AMSAT IRELAND

www.AMSAT.ie

Advancing Science,
Communication, Space
Education and Technology

For over 50 years Amateur Satellite Service organisations have existed throughout the world which have provided a critical platform for further development of the Amateur Radio hobby.

Galway Radio Experimenter's Club

Jamboree On The Air

The Galway Radio Club took part in the Internal Scout Jamboree On The Air (JOTA) over the weekend of 15th - 16th of October.

The event took place in the Knocknacarra Educate Together National School, and we set up our antenna and rigs late on the Saturday morning.

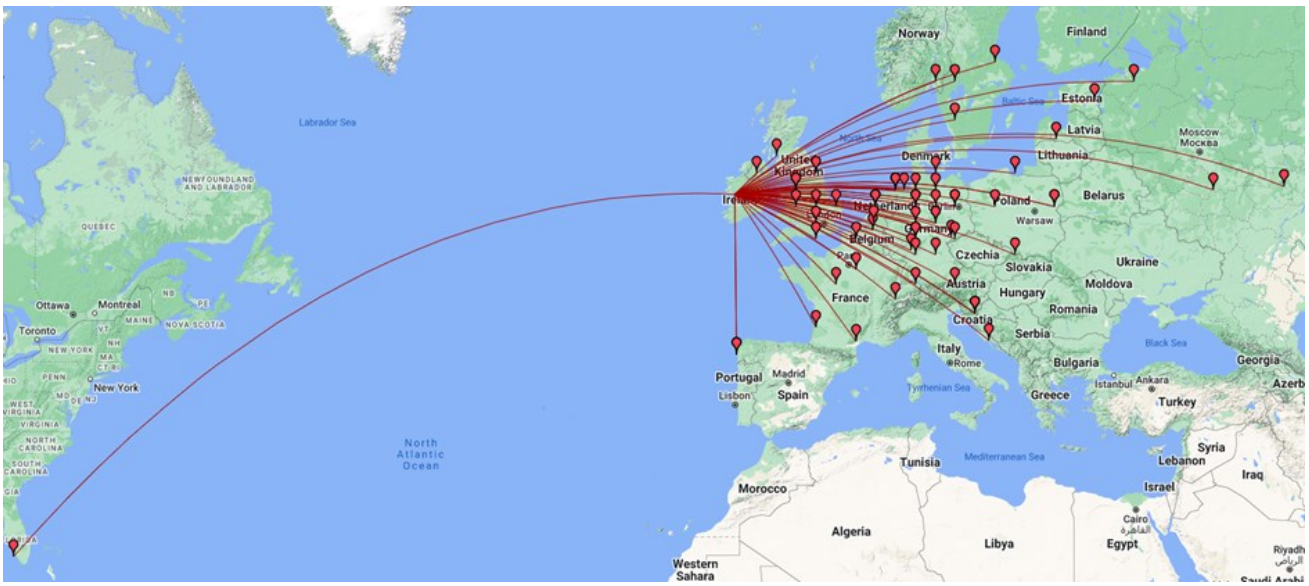
The plan was for a mix of cubs and scouts group over the two days and we were going to cover the following:

1) SSB on HF across some of the main bands set aside for JOTA
2) DMR on VHF
3) FT8 on HF
4) Morse Code "buzzers" to teach a little morse with some fun testing

We set up everything on the Saturday morning, starting around 11:30am, ran the event during the day, and took down the external antenna that evening. We repeated this on the Sunday (starting earlier) and everything finished around 4pm that day.

In the photo above, we have Steve Wright, Tom Frawley, Jason Shaughnessy, Michael Sherlock and Paul O'Connor. John Sullivan was hiding behind the photographer!! This was the main classroom and so behind Steve Wright at the middle window, there is an Icom IC-756PROIII on HF using SSB, while behind Michael Sherlock on the right hand window there is a UHF Motorola DM4600 rig for the DMR. Behind the scouts by the left window is an Icom IC-7300 connected to a laptop for using FT8.

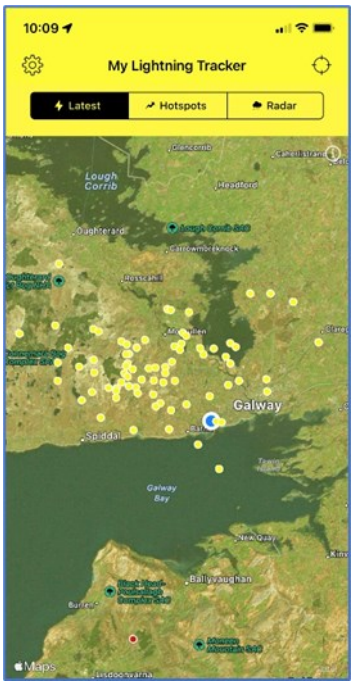
Considering the weather conditions, we made a reasonable number of contacts both on FT8 as well as SSB and DMR. Sunday, even though there was no thunder and lightning the transmission conditions were terrible and it was a lot more difficult to make any contacts at all. DMR proved quite useful on the Sunday and there were more contacts made there compared to the SSB and this allowed the scouts more opportunity to get on air.



Map showing our HF Contacts

Galway Radio Experimenter's Club

As in previous years, the Morse Code "buzzers" were really popular with the scouts being able to transmit their names. There were a few who were surprisingly adept at the morse code and picked it up very well. Again the best part is where they are "broadcasting" to Tom Frawley who is decoding their messages and helping them correct the messages.



Our first challenge we had was the weather. On Saturday morning, we had thunder and lightning, and it was not clear that we would even be able to take part. The following picture (left) shows what the lightning report was like at 10:20am that morning.

As you can see, there was a lot of lightning strikes over Galway but it was heading north at this stage so we felt that we were good to go ahead. We met up at the school at 11:15am and start to set up the antenna first.

We set up the HF antenna first, with the dipole and then the end-fed – all connected thru' the set of side windows. The dipole was freestanding, well staked into the ground whereas the end-fed was tied to a tree at one end, supported by a lamp-post in the middle and then finally being tied to the main mast of the dipole. Tom, Gerry, John and Paul set up the antenna, with Gerry (at one stage) holding it up yet again!

Galway Radio Experimenter's Club

Jason and Paul working the HF Stations

Many thanks to Brendan, Mark and the other Scout leaders for their help on both days and leading up to the event.
Many thanks to the Principle of Knocknacarra Educate Together National School for letting us use their classrooms.
Finally, my thanks to the Galway Radio Club members for their help with the running of the JOTA event.

Our Club Monthly Meetings

The Galway Radio Club met in the Menlo Park Hotel for the monthly club night. It is generally held on the first Monday of every month, except if it is a Bank Holiday in which case, we meet on the second Monday of the month. We also support a virtual presence via. Jitsi (https://jitsi.org/).

It generally a well-attended night with members being both physically and virtually present.

Focus:

The focus of our monthly club night is, as a rule, all things Ham Radio is about – learning about new things, sharing information on what works (or doesn't work), showing new (or old) pieces of equipment and giving presentations/demo's where we can. Any "club administration" is handled separately by our committee and only bring to the Monday night meeting anything that the club members need to be made aware of. Of course, Monday night club members can also raise questions/ concerns/issues etc. to the committee.

Last Club Night:

Last club night (03-October), we covered a small number of in-house topics and did a quick overview of what we wanted to do for the JOTA/JOTI weekend and ended with a demo on TinyGS.

JOTA/JOTI

We talked about the rapidly upcoming JOTA event on the 15/16 Oct. which was only 2 weeks away. The details were:

Location: Knocknacarra Educate Together National School

Address: An Coimín Mór, Cappagh Rd, Knocknacarra, Galway, H91 Y38E

Dates: 14, 15 and 16 Oct

We needed to "scout out" (yes – that phrase was really used!!!) the school to see what antenna we could set up and where, and what class rooms we could use to minimize distance from the antenna to the rigs.

Like before, we wanted to set up a HF station and a DMR station and at the same time run FT8 on HF – this meant we needed a place for 2 HF antenna – set up in a way that they would not cause interference. The HF antenna we were going to use was a dipole antenna and an end-fed antenna.

So – we planned the scouting parting and will report back on our JOTA/JOTI event in the next newsletter.

And finally….

TinyGS

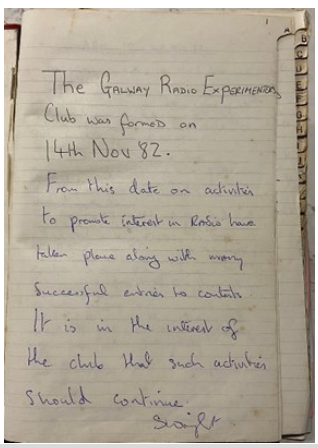
Paul demoed his Tiny Ground Station (TinyGS) which he has running at home. See earlier article on page 6

Celebrating 40 years!

The next Galway Radio Club AGM is on 20-Nov-2022 at 3:30pm in the Menlo Park Hotel.

This will bet he 40 th AGM held by the club since its first AGM on 14 th November1982. This is an important milestone to be celebrating and we would like to invite all our past club members as well as current club members to join us for the occasion.

Like all AGM's, there will be some business to attend to, but this will be dealt with quickly andefficiently. Our goal is to spend some time chatting about the last 40 years, reminiscing with our members, sharing stories and laughs.There will be tea/coffee along with sandwiches so please do come along to meet us. If you have any old photos or anything else that would be interesting to share, please bring them along We will be bringing records from our previous minutes book and anything else of interest that we can find. Here is a 40 year old teaser.


The Galway Radio Experimenters Club was formed on 14th Nov 82. From this date on activities to promote interest in Radio have taken place along with many Successful entries to contests It is in the interest of the club that such activities should continue.

Shannon Basin Radio Club

Jamboree On The Air (JOTA) 2022

Led by Marty EI2IAB, the club took part in 2022 Jamboree On The Air (JOTA) event on October in Portlick Scout campsite, near Athlone in Co. Westmeath. This is the largest annual digital scout event in which scouts all over the world connect with each other by means of amateur radio. The camp, located on the eastern side of Lough Ree, stretches over nine acres. It includes a climbing wall, zip wire, archery, and kayaking facilities. Marty set up an IC-7610 and an end-fed half wave antenna on site for the weekend.

Fig.1: Marty EI2IAB (left) helping a cub scout make his first QSO on 40m. Robbie (Dublin City FM) and Anthony EI6GGB logging the contact

Under the guidance of Shannon Basin Radio Club members Marty EI2IAB, Anthony EI6GGB, Owen EI4GGB, and Keith EI5IN, the scouts from the 17th Meath, Longwood Scout Group were able to discover the world of wireless radio techniques via QSOs with stations all over Europe. Owen EI4GGB used his expertise to help the scouts learn about electronics kit construction in the scout facilities also.

Despite the thundery hail showers that were almost deafening at times, a group of approximately 30 scouts ranging from eight years old upwards were able to have QSOs in the 40m, 20m, 15m and 2m bands on the day. We were lucky to connect with some wonderful operators on the air during the day that patiently waited as each scout took their turn – we would like to acknowledge Fergus EI6IB and Paul EI9HQB on 2m and especially, Karl M0ICR in London who was fantastic to stay on air for a long time on 40m with the group.

Dublin City FM were on hand during the day recording interviews for their Scout About show. The interviews covering JOTA, amateur radio and how to get started, in addition to the Irish Radio Transmitters Society may be listened to at https://www.dublincityfm.ie/shows/scout-about/

Forthcoming Club Activities

Shannon Basin Radio Club restart their weekly 160m topband net on Monday Oct 31st from 9pm. The club encourages DX, local, portable, mobile, and especially newly-licenced operators to call in if possible and all are very much welcome. This net adds to the weekly 80m held on Thursday nights at 9pm which draws in stations from across Ireland, the UK, and further afield. The topband net will be in the lower end of the 160m band. The exact frequency will be posted on Shannon Basin Radio Club's Facebook page and Twitter account before the net starts. Anyone wishing to learn more, submit SWL reports, or interested about the wide range of club activities are welcome to contact Shannon Basin Radio Club by email admin@sbrc.ie or via the club's social media channels

Enquiries And New Members Are Welcome

Further information about Shannon Basin Radio Club can be found at the club website https://www.sbrc.ie/ and via their Facebook group and @ShannonBasin on Twitter. Shannon Basin Radio Club has a very active membership drawn primarily from the midlands and west of Ireland but also further afield in the U.S. The club takes part in a very diverse range of amateur radio-related activities with an emphasis on fun, learning, and experimentation. New members are always welcome, and the club would be delighted to receive enquiries from anyone wishing to learn more.

2023 IRTS AGM Weekend

Shannon Basin Radio Club will host the 2023 IRTS AGM Weekend on Saturday April 29th and Sunday 30th next year. The venue is the Shearwater Hotel in Ballinasloe, Co. Galway. The weekend plans include a series of short talks and the IRTS gala dinner on Saturday followed by the ever-popular radio rally. The IRTS AGM will then be held on Sunday afternoon. Details are still being firmed up and may change so please watch for updates via the IRTS and Shannon Basin Radio Club. Further details including hotel room availability and gala dinner tickets are available at www.sbrc.ie/agmweekend

Shannon Basin Radio Club

2: Marty EI2IAB guiding a scout how to use the transceiver

The November meeting of the Skywave Amateur Radio Club. EI0SW Will take place, Tuesday the 1st of November at 8.00 p.m. at the Old Halfway House, Rathduff, Co. Cork.

New members or anyone interested in learning more about amateur radio are very welcome to attend.

Dundalk Amateur Radio Society

Dundalk Amateur Radio Society is based in Dundalk, Co. Louth Ireland. The society was established in 1969 by a number of like minded amateur radio operators from the Dundalk area. EI7DAR, EI0W, EI2MOG, EI2CCR, EI4FMG and EI7DKD are the amateur radio callsigns issued to the society by ComReg. The next meeting of DARS takes place in their clubhouse at 8:30 pm on Wednesday the 2nd of November.

Northern Ireland Radio Club Meetings

The Strangford High Frequency Enthusiasts Group is accepting UK-wide enrolments for the next UK Full licence training programme. They also use Google Meets on Monday evenings. It is completely free, email GI0VKP@gmail.com for details or see the QRZ.com entry for GI0VKP.

On Tuesdays **Carrickfergus Amateur Radio Group** meets in the Elim church, North Road, Carrickfergus from 7pm. All visitors are welcome. Info from gi0usx@yahoo.co.uk

Bushvalley Amateur Radio Club has a club net on Tuesdays at 8.30pm on 145.300MHz. On Thursday, the club meets at The United Services Club, Roemill Road, Limavady. Contact Jason, MI3UIW, via email to Bushvalleyarc@gmail.com

SHEARWATER HOTEL
BALLINASLOE
CO. GALWAY H53 F5P9

IRISH RADIO TRANSMITTERS SOCIETY'S 90TH AGM WEEKEND

SAT 29TH & SUN 30TH
APRIL 2023

HOSTED BY SHANNON BASIN RADIO CLUB
WWW.SBRC.IE/AGMWEEKEND

SHEARWATER HOTEL
CONFERENCE LEISURE WELLNESS
★★★★

NRSI is a new society and was granted full member association status of the European Radio Amateur's Organization (EURAO) in 2020

NRSI

National Radio Society of Ireland

PROMOTING OUR HOBBY SO THAT EVERYONE FEELS WELCOME

"National Radio Society of Ireland" (NRSI), aims to be an open, transparent and fair organisation. Our main goal is to promote and support radio as a hobby within Ireland with a positive modern-focused outlook.

We aim to ensure that all radio enthusiasts feel supported, recognised, valued and respected.

For More Info Visit www.nrsi.ie

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VOLUNTEERS NEEDED!

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We are always looking for new members and volunteers. For more information about IECRO please visit our website...

WWW.IECRO.COM

AREAS OF INTEREST:

- Aeronautical
- Civic Planning
- Defence Forces
- Telecommunications and Infrastructure/Utilities
- Technology Development
- Search and Rescue

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West Tyrone ARC will resume regular monthly meetings on Wednesday 9th November at 19:30 in Strathroy Community Centre, Omagh, BT79 7XE. Contact: info@wtarc.org.uk for more information

Mayo Radio Experimenters Network

The Mayo Radio Experimenters Network will hold their next club meeting on Wednesday evening November 9th at 9.00pm in the Breaffy House Hotel, Breaffy. Everyone is welcome to come along in the evening.

Drop by our Online SolderSmoke Store

https://www.cafepress.com/soldersmoke

Short Term Awards

On the occasion of the 70th anniversary of FISAIC (Fédération Internationale des Sociétés Artistiques et Intellectuelles de Cheminots) as the home of the cultural associations of railway workers, the international association of railway radio amateurs FIRAC (Fédération Internationale des Radio Amateurs Cheminots) gives this award to all radio amateurs and SWLs for radio connections the 8 special stations in the period the 1st to the 30th of November 2022.The following stations count for the award: DB7ØFISAIC; HA7ØFI; II7ØFI; OE7ØFI; OL7ØFI; OR7ØFI; TM7ØFI and 3Z7ØFI.At least connections with 5 different special stations are required.
http://www.firac.de/html/70_fisaic.html

Active from 1st December to the 31st of December. Work at least 2 of the stations, PA2XMAS, PD22SANTA and PD23HNY.

PD23HNY will be active for half of the month of January 2023

Click link here - https://www.qrz.com/db/pa22xmas

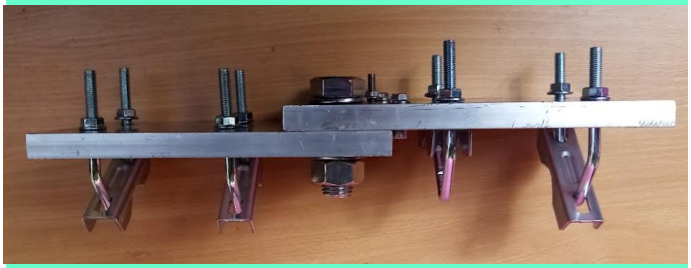
"Christmas in Sardinia' 2021 01-24 December. The Hamradio Sardinian operators in the World Group (Gruppo Radioamatori Sardi nel Mondo), in order to promote the history and the traditions of the Sardinian people, encouraging at the same time in the category of research and the knowledge of its peculiarities and specific traditions of this people, is glad to submit this Award characterized by its periodicity and limited to the Christmas period only, starting from December 1st until December 24th 2021. It is issued free of charge and only by telematic means to those hamradio operators or SWL who can demonstrate to have made the following Qso with Sardinian Radio Amateurs belonging to all the Associations who lives on the Island: More Information from:https://dxnews.com/forum/forum/amateur-radio-awards/39819-christmas-in-sardinia-2021

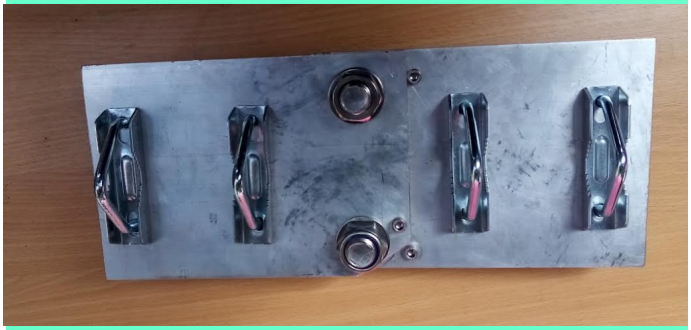
For Sale - Antenna Tilt Plates

Antenna tilt plates for sale **160 Euro** shipped via DPD within EI suitable for Hex, Cobweb and Yagi antennas that are on a tilt mast to make maintenance and repair easier. Overall 30mm thick aluminium plate design, each side of the plate being 15mm.With 30mm on its overlap with stainless steel pivot and nyloc nut hardware for added flexibility. With a set of dual heavy duty V clamps on the upper and lower plate allow for universal mounting onto a variety of masts and antenna stub masts which can accommodate mast and stub poles up to 50mm in diameter which are then secured into the V clamps by its clamp and Jaw hardware.

These are new and are handmade and never been used.

Contact: Charlie Carolan
087 6265418
or
charlie.carolan@gmail.com





RSGB Radio News Services From GI

10:00 3640KHz LSB Dungiven

12:00 TG2354 Time Slot 2 BM Network

19:30 TG 880 Time Slot 2 Phoenix Network

Shannon Basin's Automated Stations

Sliabh Bán Repeater O/P: 145.775 ,I/P :145.175, CTCSS 88.5

Roscommon Multimode Digital Gateway EI2BED 144.8625 MHz

Current Systems Active in Galway

70cm DMR Repeaters

EI7RHD	**I/P 430.450**	**O/P 439.450**	**CC1**
EI7LRD	**I/P 430.475**	**O/P 439.475**	**CC1**
EI7AKR	**I/P 438.425**	**O/P 430.825**	**CC1**
EJ7IBD	**I/P 430.500**	**O/P 439.500**	**CC1**

Yaesu Fusion Repeater

EI2KMR I/P 145.025 O/P 145.625 Wires –X

Gateways

EI2SHD	**144.8125**	**Wires-X Gateway**
EI2GCD	**145.850**	**P25 Gateway**
EI4GCG	**70.425**	**ALLSTAR node**

What is Waiting in the Wings?

1 x 70cm D-Star Repeater

1 x 70cm DMR Repeater completing the network to the South East.

Dates for the Diary

Saint-Malo Radio Club Special Event

October 27th and November 6th.

GB5LWF Special Event Station

1st November to the 28th of November

DX Féile 2022 Saturday November 5th 2022

Bush Valley ARC Rally 6th November

December - YOTA month

RSGB

The Radio Society of Great Britain (RSGB) is the national membership organisation of amateur radio enthusiasts. The society was founded in 1913 and incorporated in 1926. The Society is dedicated to the development of the science and practice of amateur radio. It works to increase awareness and understanding of amateur radio and to make the hobby accessible to everyone. Amateur radio licences were issued to the first UK radio amateurs in 1934. The RSGB represents the interests of UK licensed radio amateurs and is a not-for-profit organization that:

- Promotes the general advancement of the science and practice of radio communication or other relevant subjects.
- Facilitates the exchange of information and ideas on these subjects among its members.

The RSGB aims to obtain the maximum liberty of action consistent with safeguarding the interests of all concerned. RSGB membership is open to all who have an interest in radio communications. The national governing body (The Board) is elected nationally. The regional governing body (The Regional Council) is elected on a regional basis. The day-to-day management of the society is under the control of a small team of full-time employees who are based at the society's head office in Bedford. *RSGB Membership is just £59.00 and this includes 12 monthly technical magazines.* Affiliate your club and get the opportunity for all members to log in and read the online publication of RADCOM, RADCOM Basics and RADCOM Plus as well as receiving a hard copy of the Magazine for the Club. Apply here: https://rsgb.org/main/join-us/join-the-rsgb/

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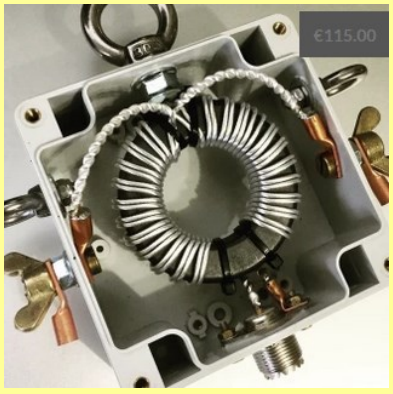

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ICOM Marine Radio

Spiderbeam, Poles and Accessories

Check out our Clearance Section on the Website

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